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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,007	07/23/2003	Kyoung-woo Lee	SAM-0313CIP	8434

7590

01/30/2006

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EXAMINER

NGUYEN, HA T

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/625,007	Applicant(s) LEE ET AL.	
	Examiner Ha T. Nguyen	Art Unit 2812	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 10 January 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1-52.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.

01-26-06

Response to Applicants' Arguments

1. Applicant's arguments with regard to the rejections under 35 U.S.C. 103 have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicants mainly argued that the combined teaching of Tsu et al. (USPN 6461955, hereinafter "Tsu") with the applied references does not teach plasma treating the surface of the filler. The examiner disagreed, there is no question about the teaching of the use of plasma treatment on the surface of a low-k dielectric material, the question is whether the teaching of plasma treating the surface of a low-k dielectric used as an interlevel dielectric is usable for a low-k dielectric used as a filler. The answer is yes, even though Lee et al. (USPN 6171951, hereinafter "Lee") does not expressly disclose plasma treating the surface of the low-k filler, Lee discloses the benefits of plasma treating an exposed surface of a low k dielectric at least to prevent damage caused by subsequent processing, the examiner considers this benefit to be a teaching applicable to an exposed surface of a low k dielectric susceptible to damage caused by a subsequent process including a filler. Whether the low-k dielectric is used as a filler or as an interlevel dielectric, the problems associated with low-k dielectric material are still the same and methods of correcting or preventing these problems should be the same. The damage done on low-k dielectric material, by subsequent process steps, would result in a lack of accurate control of feature dimensions. An ordinary artisan would have been motivated to combine Lee with Tsu to have better control of feature dimensions. In the combined teaching of Tsu with the applied references the surface of the filler is treated with plasma then the etching of the plasma treated filler would give better control of thickness to be etched resulting in more accurate trench width and depth.

Therefore the applied references do teach or make obvious all the limitations of claims 1-52. The final rejection should be sustained.

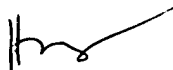
Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hà T. Nguyen whose telephone number is (571) 272-1678. The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM, except the first Friday of each bi-week. The telephone number for Wednesday is (703) 560-0528.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt, can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ha Nguyen
Primary Examiner
01- 26 - 06